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Telephone Section



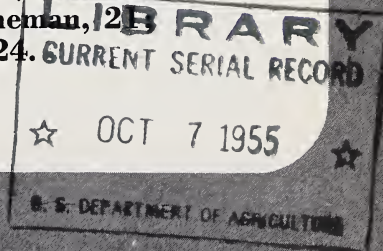
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A Message from the

ADMINISTRATOR

JUST 6 years ago at this time, the Congress created the rural telephone loan program and assigned to REA the responsibility for administering it.

Loans have been made that will result in dial telephone service for more than a half-million rural families, and loans are continuing at a brisk rate. Funds advanced for construction during 1955 exceeded the amount advanced in any previous year. More than 500 modernized telephone exchanges have gone into service as a result of REA financing, and pole line mileage sufficient to go twice around the world has been completed. At the same time, telephone construction financed by private funds has been stepped up throughout the country.

The outlook for moving ahead in rural telephony at an even faster pace in the period immediately ahead seems to be excellent. Engineers and manufacturers are developing and testing new devices to reduce construction and maintenance costs. Abundant REA loan funds are available, and the demand for them is on the uptrend. Also, there appears to be a definite atmosphere of cooperation among the large companies, the Independent companies and the cooperatives that must work together if the job is to be done.

All in all, the future looks good in rural telephony, and that is fine news, both for farmers and for business.

Administrator.



SIX YEARS

REA Telephone Loan Program Meets Need of Rural Folks for Better Service

Six years ago, on October 28, 1949, Congress authorized REA to set up the rural telephone loan program.

Four months later, the first telephone loan was approved to the Florala Telephone Company of Florala, Ala.

Eleven months later—in September 1950—the Fredericksburg and Wilderness Telephone Company of Chancellor, Va., became the first system to cut over REA-financed telephone facilities.

On November 8, 1952, the first entirely new exchange to be built from scratch by a new telephone enterprise under the REA program was put into service when the ENMR Telephone Cooperative of Clovis, N. Mex., cut over its South Clovis exchange.

As the sixth anniversary of the program approached—REA had made loans totaling about \$235 million for providing modern telephone service to more than half a

million rural subscribers up to the end of fiscal 1955. These loans went to 176 companies and 175 cooperatives.

This is 6 years of progress, measured in dates, dollars, and loans. But what have these 6 years meant in terms of the borrowing telephone systems and the people they serve?

For answer, let's take a closer view of what is happening on the first system to cut over under the telephone program.

Today, the Fredericksburg and Wilderness company finds itself with more than 500 subscribers as compared to about 150 when the system cut over 5 years ago.

"We thought we were making due allowance for growth when we planned our new system. But we have already had to get a second REA loan to meet the growing demand for service—and the rate at which new applications keep pouring in has led us lately to con-

sider the need for a third loan," explained President Tom Thorburn.

Both times before enlarging the plant, surveys were made to determine potential demand—but both times actual demand far outstripped the survey forecast.

Why?

Improved service is part of the answer, as Thorburn sees it.

"I've had people tell me that they could transact business in a 5-minute telephone call that would waste an hour of waiting in town to see the same man. And that's not taking into account the long drive into Fredericksburg and back," he explains.

Improved service has also made a big difference in the volume of toll calls over Fredericksburg and Wilderness lines. Take the contractor who formerly had to do all his long-distance calling from Fredericksburg. Now at the end of the day, he can complete any unfinished business with Richmond or Norfolk in the comfort of his own country home.

Thorburn feels that testimonials like these have had a snowballing effect in increasing service applications.

Rapid influx of new residents into the company's service area has been another and an important factor in the system's growth. In a number of instances, newcomers have called the company for assurance that they could have service before deciding to buy or build in the area. Sometimes the prospective settler wants 2-party service or a private line. After the extra cost is spelled out, the subscriber is sometimes more satisfied to settle for regular multi-party rural service.

With business booming, there is never a dull moment for the company's 2 paid executive employees. If Manager Bill Pemberton isn't busy adding new subscribers, he is on the job maintaining the system. President Tom Thorburn isn't on the payroll but Mrs. Thorburn works an average of 30 hours a week as bookkeeper and secretary-treasurer.

Mrs. Thorburn, who had no previous experience in keeping telephone company accounts, says, "REA has been a wonderful help to me in setting up a bookkeeping system. The system has been a great advantage in preparing reports for the Virginia Commission—and also has enabled us to have a clear picture of our financial situation."

Looking back over 5 years' operation under the program, the management has this word of advice to later borrowers:

"Don't ever under-estimate the demand of rural people for modern telephone service when you are planning a new system. We know we've been lucky to grow as fast as we have, but we could have saved ourselves money if we could have foreseen how fast it would happen."

That is what is happening in one community under the REA telephone program. All over the country, with variations, the same sort of thing is happening. By the end of fiscal 1955, 157 telephone borrowers had already used REA loan funds to place in service a total of 553 dial exchanges for rural service. More than 45,000 pole miles of telephone line had been completed, giving modern telephone service to thousands of farm families.

Invitation for Ideas

Survey Recommended to Bring Out Suggestions About Program

YOU and other REA telephone borrowers, potential as well as actual, will soon have an invitation to tell how the program can be made more effective.

In commenting on the proposed survey, J. K. O'Shaughnessy, assistant administrator for the telephone program, said, "We sincerely hope our borrowers and potential applicants will accept this invitation and speak frankly. Constructive suggestions will help us make a better program all the way around."

Plans for such a survey are now being developed as a result of a recent recommendation by representatives of the rural telephone industry acting as consultants to the REA administrator.

The consultants said the survey was recommended "for the purpose of learning which aspects of the program are liked and which are disliked and the reasons therefor, for obtaining suggestions which would make loan requirements more nearly fit the needs and abilities of applicants, and for determining ways in which the program may be improved."

Results of such a survey, the consultants pointed out, would be for the confidential use of the administrator and his staff in determining policies and practices to be followed.

The survey recommendation was 1 of 4 made by the consult-

ants at their summer meeting when they conferred with the administrator and his top telephone staff.

Dealing with the broad front of cooperation, the group recommended, "That all components of the industry continue to work together in order to accomplish the great amount of improvement and expansion that is still needed to adequately serve farm families and other rural subscribers, and that the REA administrator and his staff continue their program of implementing this policy of cooperation."

The group said it concurred "with the Telephone Engineering Division's position that practices specified in the REA engineering manuals are guides and that flexibility is necessary in applying the standards to specific borrower situations."

Another recommendation urged a series of rural telephone seminars. Such subjects as accounting, management, public relations and engineering were suggested.

The administrator's consultants on the telephone program include representatives of all major segments of the rural telephone industry. Among the 19 are representatives of large and small systems, Independent companies, co-operatives, AT&T, engineering firms, state commissions and national associations.

PIONEER

Samuel B. Shepard is the oldest manager of an REA-financed telephone system.

At least that's the record until someone else is able to challenge "Uncle Sam's" mark.

A pioneer of 66 years in the telephone business, "Uncle Sam" Shepard is 98 years old. His company is one of REA's newest borrowers.

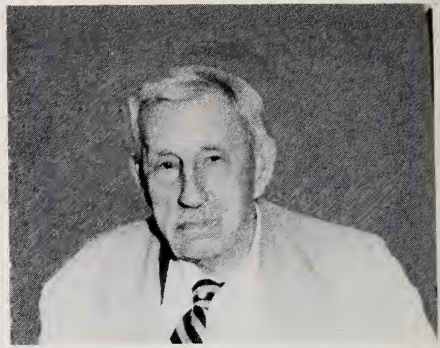
Mr. Shepard, a well-known furniture manufacturer, was one of 5 original incorporators of the Saco River Telegraph and Telephone Company at Bar Mills, Maine, when it was established in 1889. He has been president and manager ever since.

His idea originally was that subscribers would communicate with each other by telegraph. They soon found they were not adept telegraphers, and converted to a telephone system.

In putting up their first lines, including a toll line which ran into Biddeford some 11 miles away, Mr. Shepard had to overcome objections of farmers and other residents who were fearful of possible dangers, such as electrical disturbances.

In 1907, when the company had expanded to serve 46 subscribers, Miss Mary B. Shepard, daughter of "Uncle Sam's" brother, William A. Shepard, became a telephone operator for the company. Shortly afterward she was elected secretary-treasurer of the company and still holds that office.

Three years later a new switchboard with 10 lines was installed



Samuel B. Shepard

on the second floor of the company's building, which still houses the exchange. At that time 24-hour service was provided for the subscribers and has been continued ever since. Miss Shepard relates that in those early days, subscribers never used numbers; they called by name only.

Twice the company has survived disaster. In 1936, when the Saco River flooded the area, making many people homeless, the telephone switchboard was moved temporarily to safer quarters. Through the quick work of employees and the cooperation of the connecting company service was interrupted for only a few hours. In 1947, fire destroyed most of the village of Waterboro, and the company's distribution system there. Loyal employees maintained telephone service without interruption.

From its original group of 5 subscribers, the company today serves over 900. With its REA loan, approved in June 1955, the management expects to convert its magneto system to automatic dial service, add 184 new subscribers, and provide extended area service between Bar Mills and a new exchange at Waterboro.

WIRED FOR SOUND

Farmwife Describes Exciting Experience That Comes with New Dial Telephone

By Virgie Walthall

All the neighborhood is astir. The countryside is humming like a hive. When rural acquaintances meet now, the question is, "Do you have yours yet?"

We got ours day before yesterday. It's a sleek new dial telephone I'm talking about, and who isn't. The long-awaited rural-telephone system is working at last, working like a hive.

Besides a new era in communication, a social medium has been born by the new phone system or rather facilitated. It's the same old party-line spirit, the same visit-by-phone habit, the same three-or-four-person conversations, but now we can hear. Would you be-

lieve it though, some people complain. "I should think," say the spoil-sports, "that the old customs would be discarded along with the old phones." I don't know why. In the country, neighborliness knows no bounds. And imagine, new gossip benches, too.

When the telephone man came to give our phone the final touches, we waited breathless until he left. Then we made a dash for the dial, the two children and I. Farm children, some of whom never had their hot little hands on such contraptions before, are having a ball with these new phones. Farmer W., by nature subject to acute pains of embarrassment for the behavior of others, made a dash for the door. I don't think he would allow the sound of his voice to be transmitted over the new phones now for anything, even if he could get the line. Receiver in hand (I got there first), I realized I knew no numbers to dial. We do not have our directories yet.

At least there was a number on our phone. I wrote it down and hurried out to the driveway,



Mrs. Walthall's family is a subscriber of the South Central Rural Telephone Cooperative, Glasgow, Ky. Her description of the coming of the new dial telephone to her farm home is reprinted in RURAL LINES through the courtesy of the COURIER-JOURNAL, Louisville, Ky.

where Farmer W. was leaving in the car. "Here," I said, "if they have a new phone where you're going, call me."

He blushed.

I could have forgiven him for not calling if I had not found out that he went to at least three places where there were new phones and did not bring home a single phone number.

To give you more idea what the old farmer at the store meant when I overheard him say, "They'll burn 'em out in a week," I could say that almost everyone I know has written a relative somewhere to stand by for a long-distance call (a feat practically

impossible with the old phone system) to celebrate the installation of the new phones. Messages like this were posted in rural mail boxes all over the country. "Will call the minute our new phone is hooked up. Don't be alarmed." I put mine on a post card, an indiscretion which cost me the loss of the message. Farmer W., abashed even then at the gross lack of sophistication, tore up the card, or burned it more likely.

The new phones are really wonderful, though. They give the house such an up-to-date look. And you can hear real plain over them. I can tell from the loud busy signal I always get.

REA Asks FCC for Rule Changes

Holding down costs is a never-ending job in getting telephones extended to more rural people. One of the important means being tried by REA is radiotelephony.

With an ordinary radiotelephone, such as in an automobile or boat, the subscriber calls a base station and an operator connects him with his party. Since many of the REA-financed systems are using dial exchanges, REA has been working with industry to get equipment that will permit radiotelephone subscribers to dial their parties directly without having to talk with an operator.

The equipment has been developed and tested, and is now ready for use, but there is still the problem of FCC regulations that are geared to the type of service in which an operator handles the calls.

Present FCC regulations require that a record be kept of all

radio calls handled. This would, of course, be impossible with automatic dial-operated radio equipment.

FCC is also concerned that radio communication be adequately supervised to guard against abuse of the transmitting privilege and to detect equipment failures that might block the air. REA believes that this can be taken care of adequately by use of a monitoring receiver in the central telephone office or perhaps at night in the home of a responsible telephone company employee.

Administrator Ancher Nelsen has taken these matters up by letter and in person with officials of the Federal Communications Commission. The hope is to get FCC interpretations or rule changes that will make the full economies of the new type of equipment possible.



TORNADO RECOVERY

Udall, Kans., Telephone Man Back in Business As Everybody Lends Helping Hand

With the help of an REA loan made in record time and cooperation from many neighboring telephone people, the Udall Telephone Company is back in business.

Udall, you'll remember, is the little Kansas town of 510 men, women and children that was almost wiped off the map last spring.

In one of the worst tornado disasters of our time, a twister struck the town after dark and killed 82 people and injured 200 more.

Along with 98 percent of the property in the town, the telephone office was levelled. All of the town facilities were demolished, although the company's lines in surrounding farm areas were spared.

At the switchboard, Mrs. Mary Taylor, the telephone operator, was killed while she was working.

The story of how Pat C. Hurd,

owner of the telephone company, managed to get communication restored in the ruined town and how he began the long job of rebuilding what the wind had wrecked in a few minutes is both dramatic and extraordinary.

"You can't come through something like this," he says, "without friends, and telephone people from all around proved it for me."

Independents and mutuals pitched in to help. Southwestern Bell helped get temporary service restored by lending a switchboard.

REA approved a loan for \$153,000 in double-quick tempo, and the Kansas Corporation Commission speedily granted its approval of the loan arrangements.

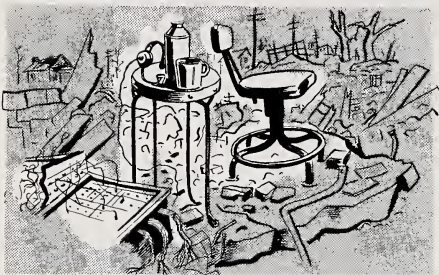
The new financing enabled Mr. Hurd to place firm orders for new equipment and to start construction of his new central office.

Part of the REA loan finances

a new building to house the automatic dial equipment, the company's business office and garage. The rest of the loan is for rebuilding or improving service to 338 existing subscribers and providing initial service to 39 new ones.

Full restoration will take months, but Mr. Hurd expects to serve new homes and businesses as fast as they are completed.

Right after the storm, telephone people for miles around began sending help. At one time, there were as many as 220 telephone men from Bell, nearby Independ-



Night operator's headset, cup and thermos were found in the wreckage.

Biggest Borrower Cuts Over First Dial Exchange

The Grand River Mutual Telephone Corporation, largest borrower of REA telephone loan funds to date, cut over its first modern dial exchange August 15 at Mercer, Missouri. The completed system is expected to have 23 dial central offices in all, with about 3,200 pole miles of line.

This non-profit organization has 4 REA telephone loans totaling \$5,106,000 with which it plans to furnish modern dial service to 10,766 rural subscribers in northern Missouri and southern Kansas. Headquarters offices are at Princeton, Missouri Mr. J. R.

ents and mutuals working with Mr. Hurd.

One Saturday, Southwestern Bell working with the Kansas Telephone Association sent a convoy of trucks and 47 volunteers to install the temporary switchboard, set poles and string wire restoring service to the farm subscribers.

The 170 long distance circuits running through Udall which had been knocked out were back in service within 2 days after the storm.

With the borrowed switchboard set up in a temporary "city hall" shed, Mr. Hurd has been able to keep rural lines in service with only a very short interruption.

The tornado was Mr. Hurd's second piece of bad luck in a matter of months. Sleet took out most of his rural lines in February.

In fact, \$5,000 worth of repairs had just been completed the very day the tornado struck.

Lowry is president and Mr. C. W. Chastin is manager of the Grand River mutual.

Homer Duckworth Dies

Homer M. Duckworth, one of REA's pioneer telephone men, died July 31, 1955, at the age of 50. Joining the REA staff during the first year of the new program, he helped in formulating procedures to get the program underway. At the time of his death he was assigned as a Field Representative in the Telephone Operations and Loans Division, Southeast Section, with headquarters in Meridian, Miss.

CONSUMER LOANS DOUBLE

Section 5 Funds Stimulate Buying of Electrical Appliances, Equipment

An increasing number of REA electrification borrowers are using Section 5 loans to help rural consumers finance the purchase and installation of needed electrical farm and home facilities while strengthening their own financial positions.

REA made 77 separate Section 5 loans, totaling \$4,148,000, during fiscal year 1955. This was double the 38 loans and \$2,033,000 total made in 1954. The 1955 loans were made to 64 borrowers in 22 states and Alaska.

More than 17,000 rural consumers are expected to use the 1955 Section 5 loan funds. More than three-fifths of the \$4 million is expected to go for new electrical appliances and equipment, both farm and home types. About one-fifth will be used for farm water systems and plumbing installations. The remainder would be divided between farmstead wiring and irrigation installations, ac-

cording to preliminary estimates of the borrowers.

REA limits Section 5 loans to areas where farmers cannot obtain suitable financing from local credit sources. A Section 5 loan enables the borrower to work with dealers in financing the appliances and equipment needed by farm families. This in turn results in greater use of electricity and increased revenues for the REA borrowers.

Reports from REA borrowers tell of substantial benefits from this low-cost and flexible financing to the rural electric system and to appliance and equipment dealers. For instance, local dealers told E. N. Butler, manager of the Suwannee Valley Electric Cooperative, Live Oak, Fla., that sales to co-op members fell to an all-time low when it discontinued Section 5 loans. After the borrower revived the program, sales picked up immediately.

SECTION 5 LOANS, BY STATES, 1955

STATES	TOTAL	STATES	TOTAL
Alabama	\$ 250,000	North Carolina	\$ 560,000
Arkansas	758,000	North Dakota	175,000
Florida	350,000	Oklahoma	40,000
Georgia	400,000	South Carolina	150,000
Idaho	150,000	South Dakota	150,000
Indiana	50,000	Texas	150,000
Iowa	85,000	Vermont	50,000
Kentucky	50,000	Virginia	100,000
Michigan	50,000	Washington	50,000
Minnesota	290,000	Wisconsin	90,000
Missouri	50,000	Alaska	50,000
New Mexico	100,000	TOTAL	\$4,148,000

Principles of kitchen planning are presented in the Iowa State College color film, "Yarn About a Kitchen." The film makes the point that the new kitchen should be designed around the family needs and habits, particularly the homemaker's work practices. A simple motion study, using colored yarn to trace the path of the hands from pantry to table to refrigerator, stove, sink, etc., is a tool used in producing a design that saves the time and energy of the busy kitchen worker. The film deals with a specific farm situation, but it applies to most kitchens which were planned and built several years ago. The film is 16 mm, sound and color and runs 23 minutes. Inquiries should be sent to: Visual Aids Production, Alice Norton House, Iowa State College, Ames, Iowa.



While 60- to 100-ampere service met World War II needs, some farmers today are finding 200-amp service inadequate.

POWER EXCHANGE



Manager Ivon Tilyou of the Peace River Electric Membership Corp., Wauchula, Fla., tells in the co-op newsletter how rural electricity helped 2 farmers convert 33 acres of what had been considered worthless land into good soil, producing at the rate of \$1,000 an acre.

The men used drainage ditches and electric pumps to dry out the swampy areas, and a deep well and pump to supply irrigation water to other portions of the land. Last season, they topped the county average of 300 bushels of cucumbers to the acre by better than 200 bushels and did equally well with their tomatoes. Farmer James Tomlinson credits the high yield and quality product to the fact that he can control the moisture in his fields through irrigation and drainage.

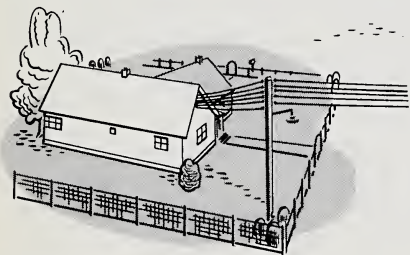
National Workshop in St. Louis

"Bigger and better in every way" is the promise of the Inter-Industry Farm Electric Utilization Council for its second annual National Power Use Workshop, November 28-30, 1955 at the Chase-Park Plaza hotels in St. Louis. The workshop will spotlight the most successful methods used around the country in promoting farm use of electric power. Because of increasing opportunities for inter-industry load-building activities, the Council invites attendance by managers, directors, power use advisers, home economists, and others active in rural electrification. Early reservations for hotel accommodations are advised.

R USE ANGE



Scrub-grade wiring is not the thing for a farm producing champion Herefords and Suffolk sheep, observes the Middle Tennessee Electric Membership Corp., Murfreesboro, in its newsletter, "Kilowatt News." With a fire in a switch box as a warning, member Bill Young had the old wiring in his farm buildings torn out and a new system installed to match the quality of the livestock he raises.



"Automatic Livestock Waterers", Leaflet No. 395, is the latest in the series on farm electrification published by the U. S. Department of Agriculture. It is 8 pages, well illustrated, and is keyed to the slogan, "Live better, farm better with electricity."

The first two in the series are "Lights for More Winter Eggs" and "Infrared Lamps . . . Their Use in Brooding Pigs."

Single copies may be obtained by writing to the Office of Infor-

mation, U. S. Department of Agriculture, Washington 25, D. C.

Capital Electric Cooperative, Bismarck, N. Dak., is encouraging members to use more electricity by making these allowances on light bills for electric appliances added before January 1, 1956: Range, \$35; water heater, \$15; dryer, \$15; and refrigerator, \$5. Maximum is \$50 per consumer.

How much extra will it cost to heat water electrically . . . run a clothes dryer? Realizing that many members may hesitate to buy new electrical devices because of uncertainty about their effect on the monthly power bill, the Eastern Iowa Light and Power Cooperative, Wilton Junction, has published operating cost tables for 6 appliances in its membership magazine, "Current News." The appliances are: food freezer, electric water heater, clothes dryer, refrigerator, air conditioner and electric range. The clothes dryer table below illustrates the method. The freezer table shows the cost data for 7 sizes. Similarly, an estimate of the cost of electrically heated water for different size families (2 to 8 persons) appears in the water heater data.

CLOTHES DRYER OPERATING COST PER MONTH*

If this is the amount of your monthly bill now	You can add an electric Clothes Dryer for a family of 4 for this amount per month
\$ 5.00	\$2.06 per month
6.00	1.80 per month
7.00	1.80 per month
8.00	1.55 per month
9.00	1.22 per month
10.00	1.20 per month
11.00	1.16 per month
12.00/or more	.92 per month

* Based on Eastern Iowa Light and Power Cooperative rates.

For Better Reports

N. C. Co-ops Join in Putting Readability Into Publications

How to make annual reports readable, interesting and clear is a problem common to all enterprises.

In North Carolina, 10 co-ops and their statewide association, the Tarheel Electric Membership Corporation, have developed a plan which results in more satisfactory reports and savings in cost.

A report format was selected which would be suitable for any

borrower. Cartoon and chart type illustrations are made more attractive by the use of one color. Headlines are large enough to be eye-catching and the copy is of the simple human-interest type.

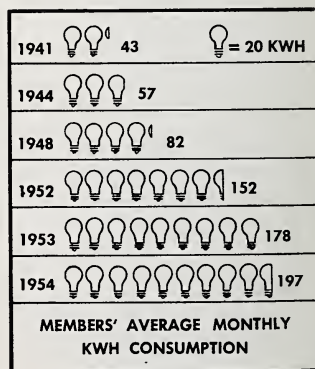
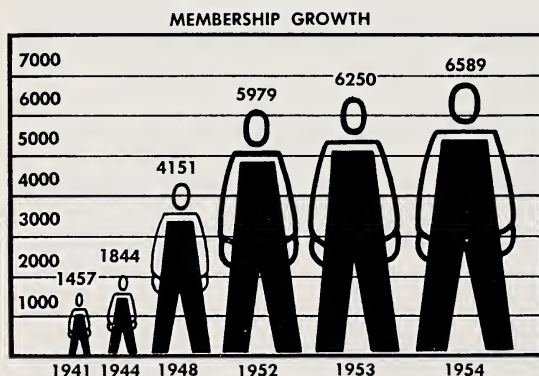
There's but one cost for art and engraving since both can be used in all 10 reports. In the charts,



only the figures need to be changed. Additional savings result because much headline and body type does not need to be reset.

Co-ops furnish the information and the statewide edits, rewrites, handles layout and places the printing order.

Statewide Manager William T. Crisp says, "Our co-ops seem quite satisfied with the report. All over the country, co-op members and corporation stockholders are asking more searching questions about what management is doing. We felt that a report of this type would provide a lot of the answers and at the same time save managers time and money."



Charts on membership growth and average kwh consumption are typical of those used in the reports. Symbols and numerals are adjusted to fit individual systems.

G-T Loans in '55

New Capacity Required to Meet Mounting Power Needs of REA Borrowers

REA loans for generation and transmission facilities totaled \$41.1 million in fiscal year 1955. In the previous 12 months, such loans totaled \$31.2 million.

The 1955 fiscal year loans will permit rural systems financed by REA to add 10 new generating units and 1,724 miles of transmission lines. The new units will have a capacity of 98,940 kilowatts and will boost the total generating plant capacity called for in all REA loans to 1,280,814 kw. Of that total, plants with a capacity of 897,023 kw, including 140,995 kw added during the year, were in operation as of June 30, 1955.

Most of the 1955 G and T funds went to the federated power cooperatives. Nine of these cooperatives in 8 states borrowed \$29.8 million, or 73 percent of the total. They propose to add 6 generating units with a total capacity of 87,750 kw.

"Helping borrowers find ways to meet their mounting power

needs is one of REA's principal responsibilities," Administrator Ancher Nelsen said. "The borrowers still purchase about 85 percent of the power they distribute, either from electric companies or from public agencies, but they generate the other 15 percent and there continue to be cases where borrower-owned generation facilities are needed.

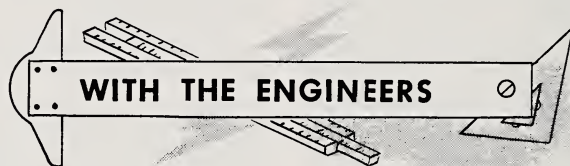
"We are finding from experience that at this stage in the program it is usually advantageous to integrate or interconnect REA-financed facilities with those of other power suppliers. In most power supply situations that turns out to be the approach that assures dependability of service and lowest cost. In any case, the plan that offers farmers the best deal is the plan that gets REA approval."

The following table shows the generation and transmission program by states for fiscal year 1955:

State	G-T Loans* Made in Fiscal '55	Generating Capacity Provided (kw)	Transmission Mileage Provided	Generating Capacity Put In Operation (kw)
Alabama	\$ 3,026,000	.....	112	15,000
Arkansas	1,581,250	.....	113	.....
California	1,195,000	.....	28	.....
Colorado	14,539,504	54,450	358	.....
Florida	969,979	.....	44	2,000
Illinois	42,725	.....	.....	5,500
Iowa	7,278,000	33,000	101	.....
Kansas	1,423,100	4,690	49	7,545
Kentucky	.....	.....	.....	40,000
Louisiana	177,750	.....	45	.....

State	G-T Loans* Made in Fiscal '55	Generating Capacity Provided (kw)	Transmission Mileage Provided	Generating Capacity Put In Operation (kw)
Maine	\$ 70,000	.....	.....	.....
Minnesota	1,011,566	300	106	.....
Mississippi	117,425	.....	15	.....
Missouri	435,048	.....	41	40,000
Montana	384,392	.....	73	.....
New Mexico	641,314	3,500	44	30,000
North Carolina	417,938	.....	33	.....
North Dakota	308,100	.....	39	.....
Oklahoma	1,522,000	.....	45	.....
Oregon	100,770	.....	19	.....
South Dakota	639,150	.....	45	.....
Texas	2,615,000	.....	230	.....
Utah	1,200,000	3,000	20	300
Virginia	727,030	.....	87	.....
Washington	112,000	.....	13	.....
Wyoming	338,629	.....	64	.....
Alaska	247,000	.....	.....	650
TOTALS	\$41,120,670	98,940	1724	140,995

* In addition to generating facilities and transmission lines, the loans include funds for substations, buildings associated with generation and supplemental amounts necessary to carry out previously approved construction.



If a consumer averages 300 kwh a month, the meter on his service will make a total of 8 million revolutions in an 8-year period. Therefore, your meter deserves thorough inspection and maintenance.

• • • • •

It costs twice as much to hand cut an acre of brush for control as it does to spray with chemicals, according to reports.

• • • • •

Systematic pole inspection and maintenance prevent costly outages and accidents. A gallon of creosote or pentachlorophenol at the right time may save a life, a pole, or hundreds of dollars.

• • • • •

What appear to be excessive line losses may be metering or billing errors.

• • • • •

A line-type voltage regulator will make that line last longer, postpone costly improvements, and avoid unnecessary amortization charges.

• • • • •

Pitting of the gap electrodes and blackening of the exhaust ports of an expulsion type lightning arrester are reliable indications that the arrester has reached the end of its life.

Ask Us Another

Annual Meeting Technique Sure-Fire Way To Stimulate Member Interest

HAS your cooperative tried the question box method of getting members to participate in their annual meeting?

The Shenandoah Valley Electric Cooperative, Dayton, Va., finds this technique effective. This is the way the question period was handled at this year's annual picnic and business meeting.

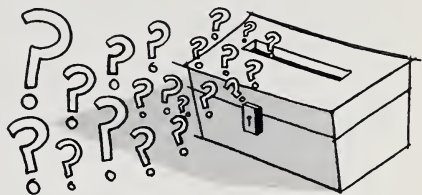
Throughout the day the question box was prominently displayed in front of the speaker's platform. The shy or hesitant ones could thus put their questions before the board without having to get up in the meeting and talk before the whole crowd.

Experts in the system's operations and management were on hand to give the answers. D. W. Burrus, president of the board; A. P. Campbell, secretary-treasurer; Lawrence H. Hoover, co-op attorney; other members of the board; L. E. Long, manager, and W. T. McChesney, electrification adviser, were on the platform. Mark McNeil, assistant manager, pulled the questions out of the box. Some he answered; others he referred to the panel.

The questions concerned rates, service, method of electing directors, and one even related to the annual meeting program. These are typical:

Why does the current go off for a few seconds at a time?

How much electricity do we



have to use before we can get the hot water heater rate?

Doesn't it cost more to heat water with electricity than with some other fuel? How about cooking?

Can low voltage cause the motor in a food freezer to run continuously?

Can we stagger the terms for directors?

As questions from the box were read and answered, members were prompted to ask others from the floor. Mr. McChesney took one mike from the platform and moved about in the crowd so that persons asking questions from the floor could be heard over the public address system.

The success of this period hinged largely on the fact that every question was fully answered. On voltage questions, for example, Mr. McNeil reminded members that their problems might stem from inadequate wiring. He offered his services and those of Mr. McChesney in working with them to solve such problems.

The people obviously wanted this chance to ask questions. Sev-

eral commented on last year's question period and its effectiveness in bringing about at least

one reform—installation of more adequate rest room facilities at the meeting grounds.

What Is a Member?

When this question was asked at the Shenandoah Valley annual meeting, Assistant Manager McNeil explained that nearly all persons receiving service were members. There were a few, he said, who did not want to be active co-op members because of long-held personal beliefs.

That reply brought this comment from the floor, in a slow, warm drawl, "If they want the light to shine on them, why don't they want to be members?"

MICHIGAN CENTENNIAL

Michigan State University this year is celebrating its 100th anniversary. During the week of August 15-20, a "Centennial of Farm Mechanization" paid tribute to the farm, industry and education for their part in the development and progress of agriculture. Be-

cause of the important contributions of rural electrification, the Michigan Statewide Committee sponsored an exhibit showing 20 years of progress in rural electrification. REA Administrator Ancher Nelsen was a featured speaker during the week.



Administrator Nelsen, left, and Clarence Staples, president of the Michigan Statewide and manager of the Fruit Belt Electric Cooperative, Cassopolis, Mich., point to exhibit showing 20 years of progress in rural electrification.

Can Atom Cut Costs?

Six Different Co-op Groups and REA Studying New Power Source

A YEAR and a half ago Congress opened up the atomic energy law to provide for greater peacetime development. Of the scores of organizations that have manifested interest in atomic research and development, few have been more active than REA and its borrowers.

In rural electrification, the atomic question of the day is: Can atomic power cut costs for the rural electric systems and, if so, how soon? Eight REA borrowers or borrower organizations have so far taken concrete steps to study that question.

—Two groups have entered into contracts with the Atomic Energy Commission to make formal studies of the atom and rural power needs.

—One borrower has developed and presented to AEC a proposal for construction of a rural atomic power plant.

—Co-ops in 5 states—Iowa, Kansas, Michigan, Minnesota and Texas—have obtained access agreements permitting inspection of AEC classified information on atomic power production.

In addition, REA and the Atomic Energy Commission are co-operating closely. The objective is to be ready to make use of atomic energy just as soon as this new source of power means lower electric costs for farmers.

REA has assigned part of its

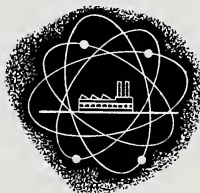
personnel to work with AEC and interested borrowers and to report to borrowers atomic developments having a bearing on rural electrification.

“The future is bright,” according to Ancher Nelsen, REA administrator. “The question is how soon can we get costs down so that we as farmers will benefit from this new source of power.

“This is still a new and untried field with many pitfalls. Costs of construction and operation are high and may remain so for some time to come. Eventually our engineers will work out the answers and when they do we will be ready to use the tremendous potential of the atom.

“Cost of power to the farmer is the first consideration of REA in the making of loans to improve power supply.”

The Seminole Electric Cooperative, Inc., of Madison, Fla., was



the first of the REA borrower groups to get into the atomic study field. The co-op contract with AEC was announced March 15, 1955.

Seminole is a federation of 5 electric distribution cooperatives

serving consumers in north central Florida.

Object of Seminole's study is to determine if nuclear power plants can be developed to produce electricity at costs below those current in Florida and to determine the suitability of small plants with a 10,000 KW capacity for use by rural systems.

The study will run a year.

Shortly after Seminole's entry, the National Rural Electric Cooperative Association contracted with AEC to make an atomic energy study.

Purpose is to study the economic and engineering practicability of various atomic power reactor designs in view of the specialized needs of the rural electric systems.

The proposal to build an atomic energy plant on an REA-financed system comes from Minnesota—the Rural Cooperative Power Association of Elk River—and is the first of its kind.

The G-T co-op's proposal calls for a 22,000-kw plant financed with federal funds. Here are highlights of the plan presented by the Elk River co-op:

The AEC would build the plant on a site owned by the co-op, and the co-op would staff and operate it. The co-op would repay the cost, plus interest, through sale of electric power, and would reim-

burse the government for fuel burn-up in the operation of the reactor. The reactor would be a small closed-cycle boiling water type which would produce steam to operate a conventional type generator. It is proposed that this generator would be financed by REA.

The proposal offers a plan for repayment by which energy would be paid for by Elk River at a rate sufficient to pay for the atomic fuel used and an additional amount to pay amortization of the loan.

Access agreements have been obtained by the following:

Corn Belt Power Cooperative, Humbolt, Iowa.

Wolverine Electric Cooperative, Inc., Big Rapids, Mich.

Kansas Electric Cooperatives, Inc., Topeka, Kans.

Rural Cooperative Power Association, Elk River, Minn.

Texas Electric Cooperatives, Inc., Austin, Texas.

An access agreement has been described as a "library card" giving the holder access to some of AEC's classified data.

AEC reports that other REA borrowers have requested information on access agreements but so far either have not filed applications, or have not completed all necessary papers.

REA electric borrowers have repaid more than 15 percent of the funds actually advanced to them, together with more than \$200 million in interest.

The average amount of kilowatt-hours consumed on farms served by REA borrowers has doubled during the last 7 years.

THE LINEMAN



Let's Ground the Truck

*By D. S. Bidle, Instructor, North Carolina
Job Training and Safety Program*

Year after year we get reports of accidents in which men are burned or killed because the truck with which they are working becomes energized. This has long been one of the major causes of shock accidents and will continue to be until something is done about it.

A truck becomes energized when the A Frame, winch line or pole which is being set or removed comes in contact with a live wire. When you talk to the foreman and crew in investigating an accident of this type, they usually say: "The truck driver didn't see the line," or "We

thought we had plenty of clearance," or "We thought we could handle the pole. I guess it's just one of those things."

Is it just one of those things? Is this or any other type of accident that could easily have been prevented just one of those things? I don't think so. If something happens after we have made every possible effort and taken every possible precaution to prevent it, then we can say it is just one of those things.

Rubber gloves and proper grounds will, *if used*, almost always give sufficient protection. Rubber gloves are worn for protection while working with your hands on low voltage lines when you know they are hot and to protect you from that unintentional contact with high voltage lines.

Grounds are put on lines that have been, or are thought to have been, de-energized. If the lines are dead, the grounds will keep them dead. If they are hot, the grounds will kill them or burn them down. In either case, the worker is protected. Most of you will agree that this is a safe and necessary practice. It is just as necessary to ground the truck or



D. S. Bidle

any other piece of equipment when there is the remotest chance of its becoming energized.

You may ask, "How can I ground the truck and what is the best method?" There are 2 methods, depending on the type of line and the situation.

If it is a wye or grounded neutral type of line, always use this method: Attach a ground cable or wire to the frame of the truck and to the system neutral or to the ground wire on the existing pole. (It would be a good practice to bond the side legs of the A Frame to the frame of the truck.) It is not recommended that ground wires be installed on poles being set in hot lines, but if they have been, they should be tied in with the truck ground.

Ground wires should be stripped from an old pole which is being removed from an energized line. If they are not, then they should be tied in with the truck ground.

Here is the second method. When, on a delta circuit, it is impossible to ground the truck to the system neutral or pole ground, install a ground rod, preferably a screw type, and attach the truck ground to it. The grounding cable should be long enough to allow safe and easy handling of the pole

and necessary movement of the truck. The pole ground should be tied in with the truck ground so that the winch cable, when put around the pole, does not come in direct contact with it.

All workers, including those standing by, should have on rubber gloves, for they might touch the truck or need to give a hand to those holding the butt of the pole. Pole guards should be used for additional protection to the men and against the line being interrupted or burned down.

Some folks say that all this is too much trouble and takes too long. They say that men won't get any work done if they have to be bothered with grounding and ungrounding a truck. But let me ask you, how much trouble is it to attend a funeral? How much time does it take for burns to heal? How long is it before the foreman and employees forget an accident that didn't have to happen? Can your cooperative, in lieu of the little time saved, afford to lose a man or two? Can you afford the unfavorable publicity which follows a serious accident? It is true it will take a little time to take safety measures, but any time used and effort put forth which eliminates an accident is well worth while.

Help Prevent Farm Fires

The President has proclaimed Oct. 9-15 as Fire Prevention Week, and Secretary of Agriculture Benson urges the cooperation and participation of all rural service organizations. This is an opportunity for the REA borrowers. U. S. farm fire losses were estimated at \$157 million in 1954. Electrical faults accounted for more than 10 percent of the fires in farm dwellings and more than 20 percent of those in barns and outbuildings. Help your members protect their families and their property by encouraging wiring re-inspection, proper fusing and other fire prevention methods.



Local Financing Supplements Section 5

Tombigbee Electric Cooperative, Guin, Ala., has worked out a financing plan for putting load on its lines and at the same time helping to raise the economic standards of the area.

Through the use of Section 5 loan funds, the cooperative is making loans to its members to finance farmstead plumbing and facilities. The local bank at Millport has agreed to finance irrigation systems for farmers in Lamar County, and also to repossess any system if the farmer is not

satisfied with it after a year's experience.

The co-op is encouraging irrigation installations. Lamar County is blessed with a number of overflowing streams which make agricultural progress with supplemental irrigation a real possibility. Bus loads of farmers, at the bank's expense, have been taken to the agricultural experiment station to receive up-to-date information on fertilizers, irrigation practices and modern production and processing of crops.

What Was Your Storm Damage?

Connie and Diane—this year's first hurricanes to reach the mainland—did relatively little damage to the lines of REA-financed systems. But other storms throughout the year have not been so sparing.

Last September, REA borrowers were asked to report all storm damage to their systems from October 1, 1954, through September 30, 1955. The kind of information wanted included not only the total cost for repairing the lines and substations, but also the number

of poles broken, cost for materials and labor, cause of damage, and other pertinent facts. Describe the cause of damage—whether from hurricane, tornado, or icing.

This information will be helpful in working with insurance companies in getting an equitable premium rate for your line insurance.

So far, some borrowers have reported; many others have not. A letter will do the trick—just tell your area director what happened, when it happened, and what it cost.

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Electrification

\$ 400,000 McCone County Electric Co-op,
Circle, Mont.
530,000 Lincoln Electric Co-op,
Eureka, Mont.
1,200,000 GarKane Power Association,
Richfield, Utah
350,000 Metlakatla Indian Community
Metlakatla, Alaska
68,000 Southeast Electric Co-op,
Ekalaka, Mont.
1,333,000 Stearns Cooperative Electric
Ass'n., Melrose, Minn.
1,739,000 Northern Lights, Inc.,
Sandpoint, Idaho
125,000 Smoky Hill Electric Co-op,
Ellsworth, Kans.
270,000 Barry Electric Cooperative,
Cassville, Mo.
300,000 Kiamichi Electric Cooperative,
Wilburton, Okla.
350,000 Yellowstone Valley Electric Co-op,
Huntley, Mont.
151,000 Columbia Power Cooperative Ass'n.,
Monument, Ore.
50,000 McCone County Electric Co-op,
Circle, Mont.
548,000 Cass County Electric Co-op,
Kindred, N. Dak.
50,000 Intercounty Electric Ass'n.,
Mitchell, S. Dak.
145,000 Big Sandy Rural Electric Co-op,
Paintsville, Ky.
225,000 Fairfield Electric Cooperative,
Winnsboro, S. C.
100,000 Roosevelt County Electric Co-op,
Portales, N. Mex.
235,000 Callaway Electric Cooperative,
Fulton, Mo.
310,000 Greene County Rural Electric Co-op,
Jefferson, Iowa
50,000 Gulf Coast Electric Cooperative,
Wewahitchka, Fla.
10,000 Ouachita Rural Electric Co-op,
Camden, Ark.
475,000 Belfalls Electric Cooperative,
Rosebud, Texas
250,000 Panola-Harrison Electric Co-op,
Marshall, Texas
815,000 Sulphur Springs Valley Electric
Co-op, Willcox, Ariz.
150,000 Douglas Electric Cooperative,
Roseburg, Ore.
180,000 Big Horn County Electric Co-op,
Lodge Grass, Mont.
2,280,000 San Isabel Electric Association,
Pueblo, Colo.

256,000 Springer Electric Cooperative,
Springer, N. Mex.
625,000 Tri-County Electric Association,
Sundance, Wyo.
3,500,000 Rushmore G & T Electric Co-op,
Rapid City, S. Dak.
50,000 Pee Dee Electric Cooperative,
Darlington, S. C.
265,000 Palmetto Electric Cooperative,
Ridgeland, S. C.
420,000 Central Florida Electric Co-op,
Chieffland, Fla.
420,000 Clearfield Electric Cooperative,
Clearfield, Pa.

Telephone

\$ 616,000 Cumberland-Sampson Telephone
Membership Corporation
Clinton, N. C.
505,000 Northeast Missouri Rural
Telephone Co.,
Greentop, Mo.
119,000 Matanuska Telephone Association,
Palmer, Alaska
25,000 Wayne Telephone Company,
Odum, Ga.
417,000 Webster-Calhoun Co-op Telephone
Ass'n.,
Gowrie, Iowa
399,000 Headwaters Telephone Company,
Rhinelander, Wis.
218,000 Tellico Telephone Company,
Tellico Plains, Tenn.
127,000 Champaign County Telephone Co.,
Champaign, Ill.
1,427,000 Highland Telephone Cooperative,
Sunbright, Tenn.
342,000 Surry Telephone Membership Corp.,
Dobson, N. C.
153,000 Udall Telephone Company,
Udall, Kans.
743,000 Logan County Rural Telephone Co-op,
Russellville, Ky.
138,000 The Craw-Kan Telephone Co-op,
Girard, Kans.
335,000 Montrose Mutual Telephone Co.,
Dieterich, Ill.
203,000 Leeds Telephone Company, Inc.,
Leeds, Ala.
1,850,000 Mid-Texas Telephone Company,
San Antonio, Texas
367,000 Mosinee Telephone Company,
Mosinee, Wis.
159,000 Lackawaxen and Hawley Telephone
Co., Lackawaxen, Pa.